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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/656,384

09/05/2003

J.Kirk Haselden

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PHILADELPHIA, PA 19103

EXAMINER

PATEL, NIRAV B

ART UNIT

PAPER NUMBER

2135

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/656,384	Applicant(s) HASELDEN ET AL.	
	Examiner Nirav Patel	Art Unit 2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the application filed on 09/05/2003.
2. Claims 1-33 are under examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 18-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 18 recites "A computer-readable medium having stored thereon an object model document for persisting an object model therein, the document comprising a compiled executable file having: an image source from which the persisted object model is instantiated in a memory of a computer; a security source from which a security agent is instantiated in the memory of the computer; the security agent for controlling access to the object model as instantiated in the memory of the computer; and a loader for being instantiated in the memory of the computer upon a command from a commander to execute the executable file to instantiate the persisted object model, the loader for instantiating the object model in the memory from the image source, instantiating the security agent in the memory from the security source, and returning to the commander a first reference to the instantiated security agent, whereby the commander in employing the first reference accesses the security agent rather than the instantiated

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object model". The computer-readable medium of claim 18 is comprised communication media [specification page 7, paragraph 0023 "communication media typically embody computer readable instructions, data structures, program modules, or other data in a modulated data signal such as a carrier wave"]. However, the signal is not limited to a tangible embodiment. As such, the claim is not limited to statutory subject matter and is therefor non-statutory. Therefore, claim 18 recites a non-statutory subject matter.

Claims 19-26 depend on claim 18, therefore they are rejected with the same rationale applied against claim 18 above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 27, 28 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Golan (US Patent No. 5,974,549).

As per claim 27, Golan discloses:

the security agent (i.e. security monitor) receiving the command from the commander [Fig. 4, col. 7 lines 51-55]; the security agent reviewing the command according to pre-defined rules therein to determine whether the object model should in fact receive the

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command; and if so, the security agent forwarding the command to the object model and the object model receiving the command and executing same [col. 2 lines 53-57, 67, col. 3 lines 1-5, col. 5 lines 62-63, Fig. 4, col. 7 lines 55-57]

As per claim 28, the rejection of claim 27 is incorporated and Golan discloses:

if the security agent determines that the object model should not in fact receive the command, the security agent does not forward the command to the object model [col. 2 lines 53-55, 67, col. 3 lines 1-3].

As per claim 30, the rejection of claim 27 is incorporated and Golan discloses:

the security agent forwarding the command to the object model by way of a second reference thereto [Fig. 4, col. 4 lines 3-5, col. 55 lines 55-57].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 9-12, 17-21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grimm et al (US Patent No. 6,317,868) and in view of Golan (US Patent No. 5,974,549).

As per claim 1, Grimm discloses:

an image source from which the persisted object model (i.e. software component) is instantiated in a memory of a computer; a security source from which a security agent is instantiated in the memory of the computer [Fig. 2, step 22 i.e. loads modified software component, which includes the original software component and the security operation, col. 5 lines 42-51, Fig. 5]; the security agent for controlling access to the object model as instantiated in the memory of the computer [col. 5 lines 44-46, col. 6 lines 42-47]; and a loader for being instantiated in the memory of the computer upon a command from a commander to execute the executable file to instantiate the persisted object model [Fig. 2, col. 4 lines 65-67, col. 5 line 1], the loader for instantiating the object model in the memory from the image source, instantiating the security agent in the memory from the security source [Fig. 2, loads modified software component, Fig. 5].

Grimm teaches the enforcement service and security policy service (i.e. security agent) for performing the access checks when the modified software component is executed [col. 2, 3, col. 6 lines 42-51]. Grimm doesn't expressively mention that returning to the commander a first reference to the instantiated security agent.

Golan discloses:

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loading the software component (the executable code) into the memory [col. 8, lines 18-20], monitoring the execution of the software component associated with the application in accordance with a security policy [col. 3 lines 35-37] and intercepting the API call (i.e. request or command) by the security monitor (i.e. security agent) [Fig. 2, 4]; returning to the commander a first reference to the instantiated security agent, whereby the commander in employing the first reference accesses the security agent rather than the instantiated object model [Fig. 4, col. 7 lines 44-57].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Golan with Grimm, since one would have been motivated to monitor the execution of the software component (i.e. object model) and provide the security [Golan, col. 3 lines 35-37].

As per claim 2, the rejection of claim 1 is incorporated and Golan discloses:

the executable file is compiled by a compiler from a C-type programming language object model document [col. 9 lines 56-67, col. 10 lines 1-18, Fig. 4].

As per claim 3, the rejection of claim 1 is incorporated and Golan discloses:

the loader upon instantiating the security agent provides same with a second reference to the instantiated object model, whereby the commander does not have the second reference and therefore cannot directly access the object model or command same to act [Fig. 4, col. 7 lines 50-57, Fig. 10].

As per claim 4, the rejection of claim 1 is incorporated and Golan discloses:

the instantiated security agent passes on each command (i.e. API call) from the commander to the object model unless such security agent deems such command to be of a type that should not be so passed on [col. 2 lines 43-47, 67, col. 3 lines 1-3].

As per claim 9, the rejection of claim 1 is incorporated and Grimm discloses:

the loader instantiates the security agent as part of the object model [Fig. 2, step 22, col. 5 lines 47-51 i.e. loads modified software component, which includes the original software component and the security operation].

As per claim 10, it encompasses limitations that are similar to limitations of claim 1. Thus, it is rejected with the same rationale applied against claim 1 above.

As per claim 11, the rejection of claim 10 is incorporated and it encompasses limitations that are similar to limitations of claim 3. Thus, it is rejected with the same rationale applied against claim 3 above.

As per claim 12, the rejection of claim 10 is incorporated and it encompasses limitations that are similar to limitations of claim 4. Thus, it is rejected with the same rationale applied against claim 4 above.

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As per claim 17, the rejection of claim 10 is incorporated and it encompasses limitations that are similar to limitations of claim 9. Thus, it is rejected with the same rationale applied against claim 9 above.

As per claim 18, it encompasses limitations that are similar to limitations of claim 1. Thus, it is rejected with the same rationale applied against claim 1 above.

As per claim 19, the rejection of claim 18 is incorporated and it encompasses limitations that are similar to limitations of claim 2. Thus, it is rejected with the same rationale applied against claim 2 above.

As per claim 20, the rejection of claim 18 is incorporated and it encompasses limitations that are similar to limitations of claim 3. Thus, it is rejected with the same rationale applied against claim 3 above.

As per claim 21, the rejection of claim 18 is incorporated and it encompasses limitations that are similar to limitations of claim 4. Thus, it is rejected with the same rationale applied against claim 4 above.

As per claim 26, the rejection of claim 18 is incorporated and it encompasses limitations that are similar to limitations of claim 9. Thus, it is rejected with the same rationale applied against claim 9 above.

6. Claims 5, 13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grimm et al (US Patent No. 6,317,868) in view of Golan (US Patent No. 5,974,549) and in view of Seeman (US Pub. No. 2003/0200459).

As per claim 5, the rejection of claim 4 is incorporated and Golan discloses blocking the API calls (i.e. commands) that are forbidden according to the security policy [col. 2 line 67, col. 3 lines 1-3]. Golan doesn't expressively mention that a type of command that would expose the object model in a non-obfuscated form.

Seeman teaches:

the security agent does not pass on to the object model a type of command that would expose the object model in a non-obfuscated form (i.e. clear form or decrypted form) [paragraph 0022 lines 13-16, paragraph 0165 lines 16-18 determines access/usage rights, if determines that the file may not be accessed, process monitor blocks further file reading i.e. does not perform the decryption process on the protected file/document]. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Seeman with Grimm and Golan, since one would have been motivated to protecting the digital documents/files [Seeman, paragraph 0019 lines 2-3].

As per claim 13, the rejection of claim 12 is incorporated and it encompasses limitations that are similar to limitations of claim 5. Thus, it is rejected with the same rationale applied against claim 5 above.

As per claim 22, the rejection of claim 21 is incorporated and it encompasses limitations that are similar to limitations of claim 5. Thus, it is rejected with the same rationale applied against claim 5 above.

7. Claims 6, 7, 14, 15, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grimm et al (US Patent No. 6,317,868) in view of Golan (US Patent No. 5,974,549) and Masaki et al (US Patent No. 6,980,308).

As per claim 6, the rejection of claim 4 is incorporated and Golan discloses:

blocking the API calls (i.e. commands) by the security monitor that are forbidden according to the security policy [col. 2 line 67, col. 3 lines 1-3].

Masaki teaches:

if the degree of matching with the specified pattern is large (i.e. expose the object with a level of granularity finer than a pre-defined maximum), sends a print inhibition command to the printer driver to stop the transmission of the print data (i.e. does not pass a command) [col. 4 lines 1-5, col. 3 lines 9-13, Fig. 7].

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Masaki with Grimm and Golan, since one would have been motivated to provide the security [Masaki, col. 1 line 13].

As per claim 7, the rejection of claim 6 is incorporated and Golan discloses:

allowing the API calls (i.e. commands) by the security monitor that are permitted according to the security policy [col. 3 lines 3-5].

the pattern detector does not detect a specified pattern (i.e. expose the object with a level of granularity coarser than the pre-defined maximum), sends a print permission command to the printer driver to start the transmission of the print data (i.e. passes a command) [col. 3 lines 1-7, Fig. 7].

As per claim 14, the rejection of claim 12 is incorporated and it encompasses limitations that are similar to limitations of claim 6. Thus, it is rejected with the same rationale applied against claim 6 above.

As per claim 15, the rejection of claim 14 is incorporated and it encompasses limitations that are similar to limitations of claim 7. Thus, it is rejected with the same rationale applied against claim 7 above.

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As per claim 23, the rejection of claim 21 is incorporated and it encompasses limitations that are similar to limitations of claim 6. Thus, it is rejected with the same rationale applied against claim 6 above.

As per claim 24, the rejection of claim 23 is incorporated and it encompasses limitations that are similar to limitations of claim 7. Thus, it is rejected with the same rationale applied against claim 7 above.

8. Claims 8, 16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grimm et al (US Patent No. 6,317,868) in view of Golan (US Patent No. 5,974,549) and in view of Dutta et al (US Pub. No. 2002/0138727).

As per claim 8, the rejection of claim 1 is incorporated and Golan discloses the security agent (i.e. security monitor) and the object model (i.e. the software component/application) [Fig. 1, 4].

Dutta teaches:

the loader instantiates the security agent (i.e. class public ServerClassM) separately from the object model (i.e. Class public ClientClassA or Class public ClientClassB) [Fig. 4A, paragraph 0047, 0048, 0050].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Dutta with Grimm and Golan, since one would have been motivated to provide secure access control [Dutta, paragraph 0009 lines 4-5].

As per claim 16, the rejection of claim 10 is incorporated and it encompasses limitations that are similar to limitations of claim 8. Thus, it is rejected with the same rationale applied against claim 8 above.

As per claim 25, the rejection of claim 18 is incorporated and it encompasses limitations that are similar to limitations of claim 8. Thus, it is rejected with the same rationale applied against claim 8 above.

9. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golan (US Patent No. 5,974,549).

As per claim 29, the rejection of claim 28 is incorporated and Golan discloses the security agent determines whether the object model should in fact receive the command [col. 5 lines 6-12]. Golan doesn't expressively mention that the security agent responds to the commander. However, Golan teaches blocking the intercepted API calls (i.e. commands) that are forbidden according to the security policy [col. 2 line 67, col. 3 lines 1-3] and notifying the user accordingly [col. 6 lines 27-29].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the notification provided by the security monitor disclosed by Golan as responding to the commander with a message, since one would

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have been motivated to monitor the execution of the software component (i.e. object model) and provide the security [Golan, col. 3 lines 35-37].

10. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golan (US Patent No. 5,974,549) and in view of Seeman (US Pub. No. 2003/0200459).

As per claim 31, the rejection of claim 27 is incorporated and Golan discloses blocking the API calls (i.e. commands) that are forbidden according to the security policy [col. 2 line 67, col. 3 lines 1-3]. Golan doesn't expressively mention that a type of command that would expose the object model in a non-obfuscated form.

Seeman teaches:

the security agent does not pass on to the object model a type of command that would expose the object model in a non-obfuscated form (i.e. clear form or decrypted form) [paragraph 0022 lines 13-16, paragraph 0165 lines 16-18 determines access/usage rights, if determines that the file may not be accessed, process monitor blocks further file reading i.e. does not perform the decryption process on the protected file/document].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Seeman with Golan, since one would have been motivated to protecting the digital documents/files [Seeman, paragraph 0019 lines 2-3].

11. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golan (US Patent No. 5,974,549) and Masaki et al (US Patent No. 6,980,308).

As per claim 32, the rejection of claim 27 is incorporated and Golan discloses:

blocking the API calls (i.e. commands) by the security monitor that are forbidden according to the security policy [col. 2 line 67, col. 3 lines 1-3].

Masaki teaches:

if the degree of matching with the specified pattern is large (i.e. expose the object with a level of granularity finer than a pre-defined maximum), sends a print inhibition command to the printer driver to stop the transmission of the print data (i.e. does not pass a command) [col. 4 lines 1-5, col. 3 lines 9-13, Fig. 7].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Masaki with Golan, since one would have been motivated to provide the security [Masaki, col. 1 line 13].

As per claim 33, the rejection of claim 32 is incorporated and Golan discloses:

allowing the API calls (i.e. commands) by the security monitor that are permitted according to the security policy [col. 3 lines 3-5].

the pattern detector does not detect a specified pattern (i.e. expose the object with a level of granularity coarser than the pre-defined maximum), sends a print permission command to the printer driver to start the transmission of the print data (i.e. passes a command) [col. 3 lines 1-7, Fig. 7].

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Britton et al (US 6405202) --- System and method for adding property level security to an object oriented database.

Krishnaswamy et al (US 6622300) --- Dynamic optimization of computer programs using code-rewriting kernel module.

Uchida (US 2003/0188187) --- Obfuscated source program, source program conversion method and apparatus and source conversion program.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-272-5936. The examiner can normally be reached on 8 am - 4:30 pm (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

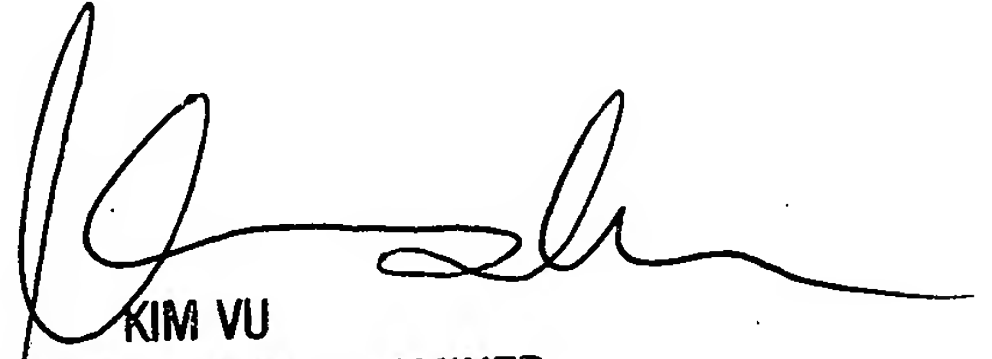
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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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